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40570	7590	04/27/2009	EXAMINER	
FRIEDRICH KUEFFNER 317 MADISON AVENUE, SUITE 910 NEW YORK, NY 10017				MCGUTHRY BANKS, TIMA MICHELE
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/559,802	PLESCHIUTSCHNIGG ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	TIMA M. MCGUTHRY-BANKS	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 February 2009.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

### ***Status of Claims***

Claims 1-12 are as previously presented and Claims 13-19 are cancelled.

### ***Election/Restrictions***

Claims 13-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/17/2009.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. However, applicant has not filed a certified copy of German patent 103 25 955.4. Therefore, priority is based on the 371 date, which is 5/25/2004.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the descaling before being partially deformed (Claim 1) and a melting installation that is not a steelworks converter (Claim 1) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim 1 recites the limitation "the continuous casting mold" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the last finishing stand" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 contains the trademark/trade name CONARC. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe an electric arc furnace and, accordingly, the identification/description is indefinite.

Claim 1 states producing steel products on the basis of an electric arc furnace in line 6. Applicant contradicts this limitation in lines 22 and 23 with "producing molten steel (1b) in a melting installation (2a), which is not a steelworks converter."

Claim 1 states in (b) "by melting in an electric arc furnace (2b) or in a CONARC double furnace, in a ladle with an electrode system (31) ...". The claim reads on the ladle furnace has an electrode system, and the electric arc furnace or CONARC double furnace is in a ladle furnace, both of which are all unclear.

The limitation " $\Delta \text{Al}$  contents" in Claims 2, 3 and 5 appears to be incompletely recited. There is no property or concentration related to Al.

Claim 2 recites the limitation "the final adjustment of the final analysis" in lines 10 and 11. There is insufficient antecedent basis for this limitation in the claim.

In Claim 2, applicant cites the ladle furnace twice. If the second incidence of the ladle furnace is the same as the first, applicant should use "the" instead of "a". Otherwise, the claim reads on two different furnaces.

Claim 3 recites the limitation "the second process route" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the prereduction (FeMnHC) of the steel" in line 9. There is insufficient antecedent basis for the limitation "FeMnHC" being present in the steel. Additionally, it is not clear if this is a claim limitation.

Claim 3 recites the limitation "the final adjustment of the final analysis" in line 14. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the third process route" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Regarding claim 4, the phrase "prereduction (FeMnHC)" renders the claim indefinite because it is unclear whether the limitation(s) FeMnHC are part of the claimed invention. See MPEP § 2173.05(d). Additionally, it is not clear if this is a claim limitation.

Claim 4 recites the limitation "the final adjustment of the final analysis" in line 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the fourth process route" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "the final adjustment of the final analysis" in lines 9 and 10.

There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 12, the phrase "(dual-phase steel 33 or TRIP steel 34)" renders the claim indefinite because it is unclear whether the limitations in parentheses are part of the claimed invention. See MPEP § 2173.05(d).

Claims dependent on any of the above are likewise rejected under this statute.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

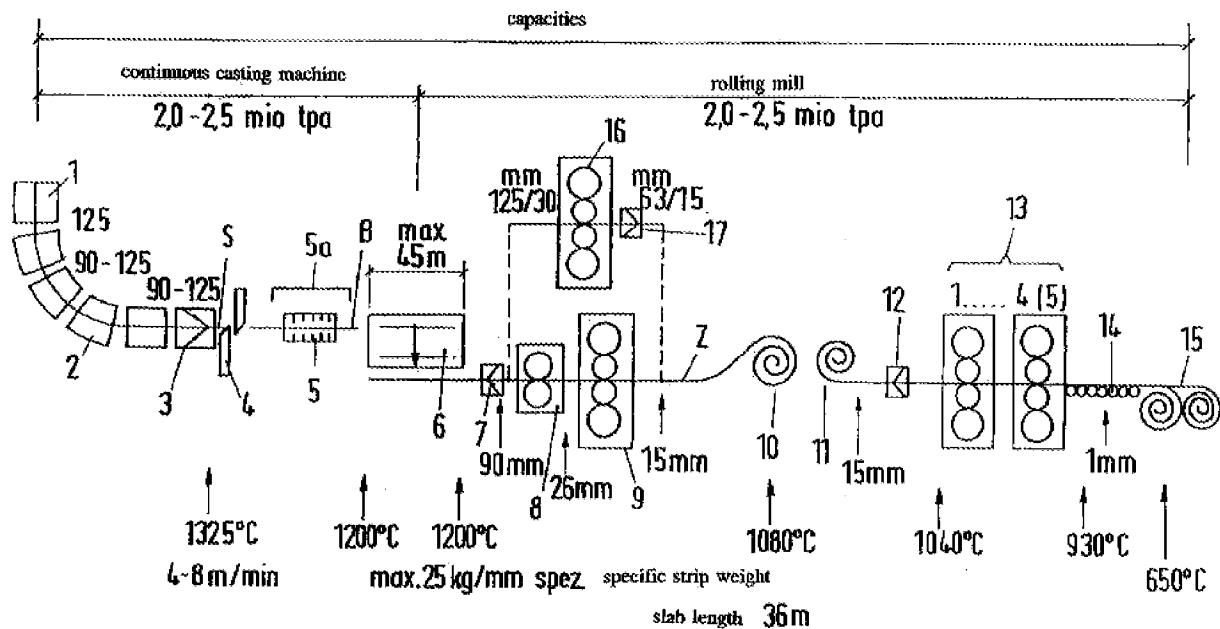
Art Unit: 1793

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 6-9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al (US 5,991,991) in view of Pleschiutschnigg et al (US 5,832,985), Mabuchi et al (US 6,096,137), JP 406100949 A and Dittrich et al (US 2004/0154437).

Pleschiutschnigg et al '991 teaches producing hot-rolled steel strip from input stock of continuously cast strip in sequential work steps (abstract) as shown below in Fig. 1:

**Fig. 1**



The steel is in strips (abstract). The cast steel is reduced in thickness at 2, cut at 4, descaled at 7, heated at 16, heated at 6, descaled at 7, rolled at 8 and 9, coiled at 10, cooled at runout table at 14

and coiled at 15. Regarding Claims 9 and 10, the run-out table includes a cooling device (column 3, lines 50-52). Applicant does not provide any limitation to how the cooling is controlled in Claim 10.

However, Pleschiutschnigg et al ‘991 does not teach descaling after casting as in Claims 1 and 6, descaling after cutting as in Claim 1, a soaking furnace in Claim 1 or process route (a).

Regarding descaling after casting in Claims 1 and 6, Pleschiutschnigg et al ‘985 teaches a producing a steel strip with the properties of a cold rolled product (title). Cast strip is rolled to solidification thickness behind the casting mold. The thin slag is descaled and hot rolled before being divided to partial lengths by strip shears (column 1, lines 17-24). Regarding Claim 8, the slabs are reheated inductively before being wound into coils (lines 27-29). It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the steps of descaling and hot rolling as taught by Pleschiutschnigg et al ‘985 in the process of Pleschiutschnigg et al ‘991, since Pleschiutschnigg et al ‘985 teaches that this process intends to produce cold rolled strip while expending as little energy as possible (column 1, lines 34-36).

The examiner notes that Pleschiutschnigg et al ‘985 teaches the aforementioned as a non-preferred embodiment; according to MPEP § 2141.03, a prior art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention.

Regarding descaling after cutting as in Claim 1, Mabuchi et al teaches a pickling plant for removing scale from fresh hot rolled steel strip (column 1, lines 4-6). A hot rolled steel strip is descaled. The apparatus includes a pickling plant and cold strip mill (column 4, lines 29-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to descale after hot rolling in Pleschiutschnigg et al ‘991 in view of Pleschiutschnigg et al ‘985,

since Mabuchi et al teaches that oxide scale produced during hot rolling causes scale scratch and should be removed (column 1, lines 12-17).

Regarding the soaking furnace in Claims 1 and 7, Pleschiutschnigg et al '991 teaches that the strip is brought to a homogeneous rolling temperature in the equalizing furnace 6 (column 1, line 10). JP '949 teaches a method of heating steel slab in a soaking furnace (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a soaking furnace in the equalizing furnace of Pleschiutschnigg et al '991, since JP '949 teaches that the oxidation of the steel slab is reduced due to the minimized exposed area of the slabs to oxygen (abstract).

Regarding process route (a), Dittrich et al teaches degassing molten steel under vacuum [0002]. The apparatus includes ladle stand degasifiers [0055]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of degassing molten steel with the process of Pleschiutschnigg et al '991, since Dittrich et al teaches degasifying molten steel by increasing productivity and reducing the vacuum treatment time and thereby increasing the useful life of the metallurgical vessels [0031]. Additionally the final content of dissolved gases in the molten steel is reduced [0032].

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, as applied to claim 1 above, and further in view of JP 2000087128 (Derwent abstract) and JP 10130713 (Derwent abstract).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al discloses the invention substantially as claimed. However, Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al does not teach the vacuum degassing steps or the ladle furnace steps as in Claim 2.

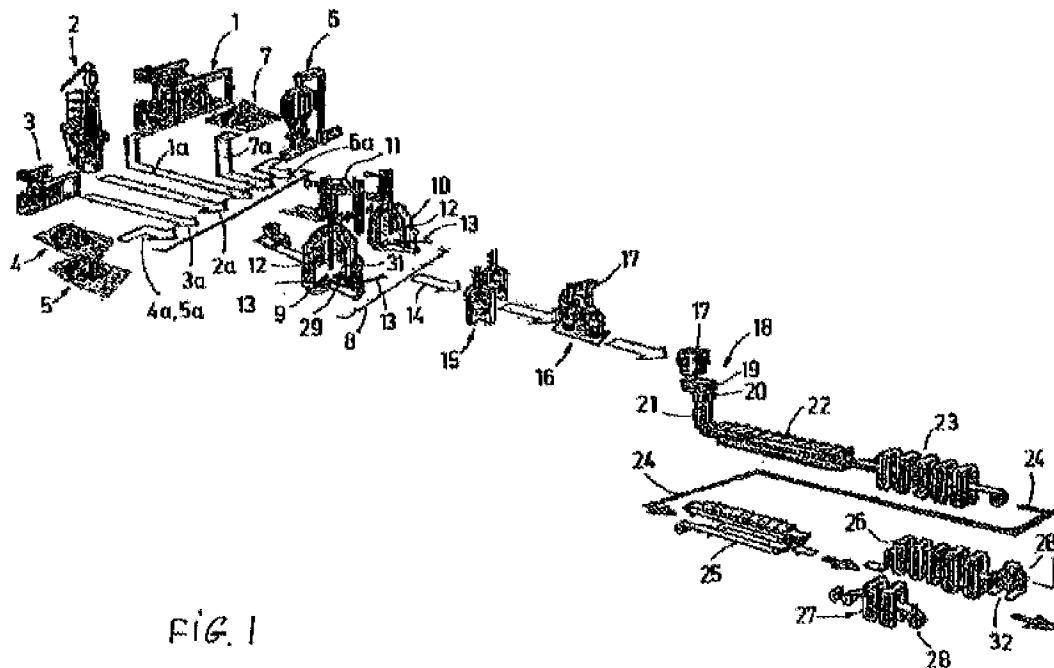
Regarding the vacuum degassing steps, JP '128 teaches a molten steel secondary refining method that involves decarbonization, deoxidation and alloy addition (title) in a vacuum degassing apparatus. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of JP '128 in the process of Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, since JP '128 teaches that the clogging of nozzles in continuous casting processes is prevented, productivity is improved, and the obtained cast piece has excellent purity (abstract).

Regarding the ladle furnace steps, JP '713 teaches simultaneous control of slag composition and casting metal temperature after addition of silicon, slag making agents and oxygen in a ladle (title). The method is used after degassing (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of JP '713 in the process of Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, since JP '713 teaches that the process saves electric power, avoids aluminum oxidation temperature rise, enables melting of Al-Mn group oxide dispersions and reduces temperature rise processing time (abstract).

Claims 1 and 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al ‘991 in view of Pleschiutschnigg et al ‘985, Mabuchi et al, JP ‘949 and Pleschiutschnigg et al (US 2003/0230163).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949 are applied as discussed above. However, Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949 does not teach process route (b) as claimed.

Regarding process route (b), Pleschiutschnigg et al '163 teaches producing steel in a plant as shown below in FIG 1:



The plant includes an electric arc furnace converter installation 8 with two metallurgical vessels 9 with electrode system 11 [0027], and the steel is delivered to a ladle to a continuous casting mold [0028]. The plant also includes a vacuum installation 15 (VD, VOD) [0037]. Further

regarding Claim 11, the electrode system pivots over each metallurgical vessel [0027]. Pleschiutschnigg et al '163 further teaches using pig iron and scrap [0026] and using top lances [0004]. An electric arc furnace inherently runs by electrical energy. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the steel production installations of Pleschiutschnigg et al '991 as taught by Pleschiutschnigg et al '163, since Pleschiutschnigg et al '163 teaches that two metallurgical vessels can be changed based on arbitrary analysis of following each other melts [0006].

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Pleschiutschnigg et al '163 as applied to claim 1, and further in view of JP '713.

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Pleschiutschnigg et al '163 discloses the invention substantially as claimed. However, Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Pleschiutschnigg et al '163 does not teach the step for the vacuum degassing system as claimed.

JP '128 teaches a molten steel secondary refining method that involves decarbonization, deoxidation and alloy addition (title) in a vacuum degassing apparatus. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of JP '128 in the process of Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Pleschiutschnigg et al '163, since JP '128 teaches that the clogging of nozzles in continuous casting processes is prevented, productivity is improved, and the obtained cast piece has excellent purity (abstract).

Claims 1, 4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Gero (US 3,523,785).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949 is applied as discussed above. However, Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949 does not teach the differential pressure vacuum degassing system of step (c) in Claim 1 or the ladle furnace steps and degassing steps in Claim 4.

Regarding Claim 1, Gero teaches introducing molten metal from a ladle into a tundish. A vacuum pump is actuated to evacuate the degassing enclosure (column 3, lines 3-9). To discharge molten metal from a degassing enclosure while maintaining the enclosure in an evacuated condition, it has been necessary to maintain a barometric head of molten metal plus an addition head to promote flow because of the difference atmospheric pressure and the pressure in the chamber (column 1, lines 40-50). An electromagnetic force creates an electromagnetic head greater than the difference between the vacuum pressure head produced by the pressure differential (column 2, lines 6-10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of Gero in the process of Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949, since Gero teaches that this process eliminates the need for extra pouring boxes and extra refractory, materially reduces heat loss and permits vacuum degassing of al but a few pounds of molten metal (column 2, lines 1-5).

Claims 1 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Khusnudinov et al (US 4,390,352) or Keilman et al (US 4,390,362).

Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949 is applied as discussed above. However, Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949 does not teach a partial quantity degassing step as in step (d) of Claims 1 and 5. Khusnudinov et al teaches degassing molten metal in vacuum prior to beginning the metal's interaction with inoculating additives to ensure partial degassing (column 5, lines 6-8). This step is performed in the ladle (line 60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of Khusnudinov et al in the process of Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949, since Khusnudinov et al teaches that this process results in reducing the content of oxygen, a decreasing the consumption of the inoculating additives and a decrease in total consumption of the inoculant (column 5, lines 9-14).

Alternatively, regarding process route (d), Keilman et al teaches a ladle containing a molten bath of steel received from a primary steelmaking process, i.e. an electric arc furnace (column 10, lines 62-66). Steel is inherently alloyed, since it contains more elements than just iron. Vacuum degassing with carbon dioxide is performed in the ladle (column 11, lines 26-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the process of Keilman et al to produce the steel in Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al and JP '949, since Keilman et al teaches that the use of carbon dioxide gives excellent cost savings and provides better processing results (column 6,

lines 4-7). Furthermore, Keilman et al teaches that unless gaseous materials in steel are removed, they can cause porosity, flaking, embrittlement, voids, inclusions and other undesirable conditions after the steel after it is solidified (column 1, lines 21-25).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pleschiutschnigg et al '991 in view of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, Pleschiutschnigg et al '163, Gero, Khusnutdinov et al or Keilman et al as applied to claim 1 above, and further in view of Cornet et al (US 6,821,356 B2).

The prior art cited against claim 1 does not disclose that the steels are produced with a multiphase microstructure as claimed. Cornet et al teaches making a multiphase hot rolled steel strip comprising carrying out an ultra-fast cooling operation after controlled slow cooling of the strip on a conventional slow cooling table (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made that to use the cooling method in the process of Pleschiutschnigg et al '985, Mabuchi et al, JP '949 and Dittrich et al, Pleschiutschnigg et al '163, Gero, Khusnutdinov et al or Keilman et al as taught by Cornet et al, since the process results in a steel with mechanical properties such as strength and ductility that are improved (column 2, lines 32-24).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Wyszomierski/  
Primary Examiner  
Art Unit 1793

/T. M. M./  
Examiner, Art Unit 1793  
24 April 2009